Injuries to Construction Laborers

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Preface

This bulletin summarizes the results of a survey of construction laborers who were injured on the job in the month of October 1983. The findings of this survey will assist the Occupational Safety and Health Administration (OSHA) in developing safety standards, compliance strategy, and training programs for reducing work-related injuries.

The survey was conducted by the Bureau's Office of Occupational Safety and Health Statistics, in cooperation with the following State agencies:

Alaska Department of Labor, Workers' Compensation Division
Industrial Commission of Arizona, Division of Administrative Management, Research and Statistics
Arkansas Workers' Compensation Commission
California Department of Industrial Relations, Division of Labor Statistics and Research
Colorado Department of Labor and Employment, Division of Labor/Statistics
Delaware Department of Labor, Division of Industrial Affairs, OSH Statistics Section
Hawaii Department of Labor and Industrial Relations, OSH Research Section
Iowa Bureau of Labor, Research and Statistics
Kentucky Labor Cabinet, Occupational Safety and Health Program
Maine Department of Labor, Bureau of Labor Standards
Maryland Department of Licensing and Regulation, Division of Labor and Industry, Research and Statistics Unit
Michigan Department of Labor, MIOSHA Information Section
Missouri Department of Labor and Industrial Relations, Division of Workers' Compensation, Statistical Section
Montana Department of Labor and Industry, Workers' Compensation Division, Statistical Section
Nebraska Workmen's Compensation Court, Statistics Section
New Mexico Occupational Health and Safety Bureau
North Carolina Department of Commerce, Industrial Commission
Industrial Commission of Ohio, Division of Safety and Hygiene
Oregon Workers' Compensation Department, Research and Statistics Section
Tennessee Department of Labor, Division of Labor Standards, Research Section
Texas Industrial Accident Board and Department of Health
Utah Industrial Commission, Statistics Division
Vermont Department of Labor and Industry
Virginia Department of Labor and Industry, Division of Research and Statistics
Washington Department of Labor and Industries, Industrial Insurance Division, Data Analysis Section
Wisconsin Department of Industry, Labor, and Human Relations, Workers' Compensation Division
Wyoming Department of Labor and Statistics, Research and Statistics Section

The following offices of the Occupational Safety and Health Administration of the U.S. Department of Labor contributed to the planning and development of the survey: Compliance, Standards Development, Statistical Studies and Analysis, Regulatory Analysis, and Training. The Office of Safety Research of the National Institute for Occupational Safety and Health also contributed. The analysis of the survey findings was prepared by Helen McDonald. Lyn Pearson developed the computer tabulations.

A list of other Work Injury Reports published since 1978 appears at the end of this bulletin.

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Injuries to Construction Laborers

Introduction

Nearly 1 out of 5 workers in the construction industry is classified as a laborer. Laborers include the "helpers" who assist the carpenters, electricians, masons, or other craft workers, and the workers who do the shoveling, lifting, carrying, and a variety of other jobs which require relatively few skills. Indicative of the many activities laborers perform, 286 jobs were listed in the 1970 Bureau of the Census Index of Occupations under the heading "Construction Laborers." These laborers work in an industry that had an overall occupational injury incidence rate of 14.7 per 100 full-time workers in 1983, almost twice the national rate of 7.5, and higher than any other industry division.[1] In fact, construction laborers are injured about 2½ times more frequently than the general work force.[2]

At the request of the Occupational Safety and Health Administration, the Bureau of Labor Statistics surveyed a sample of these workers to obtain more information on the actions and hazards associated with their work injuries. Injured workers were asked to describe their activity, tools or equipment used, and location at the time of the accident. As a measure of the severity of the workers' injuries, information was obtained on the number of days lost from work, the length of hospitalization required, the nature of the injury, and the part of the body affected. Workers also indicated how much training and experience they had with their employer and in construction in general. Finally, they were asked about worksite conditions or other factors thought to contribute to the accident and what they felt would be the best preventive measures.

Survey results

Industry and type of work. General building contractors (residential and industrial buildings) had the largest proportion of injuries to laborers, followed by special trade contractors (plumbing, painting, electrical, and other specialty work). Heavy construction contractors, who are involved with projects such as highways, bridges, tunnels, and utility lines, had the smallest proportion (chart 1).

Slightly more than one-third of the injuries occurred at sites where new buildings or houses were being erected. About 1 in 7 injuries happened at existing structures where repair or remodeling work was in process (table 1). A similar proportion occurred during new construction of nonbuilding structures such as walls, towers, or parking lots. Next in frequency were injuries during site clearance and demolition work, road building or repair, sewer or pipeline work, and bridge or tunnel construction.

Although most injuries occurred at ground or floor level, 22 percent of the workers were at elevations when their injuries occurred (table 2). The most common elevated locations were scaffolds, ladders, and roofs. About 7 percent of the injuries took place in trenches.

Age and experience. Younger construction laborers are more likely to be injured than older laborers. Seventy-eight percent of the injured workers were under 35 years of age, compared with 63 percent of all construction laborers (chart 2).

The construction laborers who were injured had shorter job tenures than most construction laborers: 74 percent of those injured had less then 1 year's experience (chart 3). Only 44 percent of all construction laborers had this short a length of service on their current job.[3] More than one-half of the injured laborers had been at the particular job site less than 1 month (table 2). Furthermore, 1 out of 8 injuries occurred to workers on their first day at the site.

However, more than three-fourths of the injured had been in the industry longer than 1 year, and two-fifths had 5 or more years of service in the industry (chart 4).

Type of accident, activity, and source of injury. One-fourth of the workers were injured as a result of being struck by objects (table 3). Overexertion was the cause of about one-fifth of the injuries. Falls from elevations, striking against objects, and getting caught in or between objects were each responsible for about one-tenth of the injuries. More than one-half of the injuries due to overexertion occurred to workers whose primary task was lifting, carrying, or moving objects (text table 1). Another job associated with overexertion was shoveling. Falls from elevations occurred most often to laborers who were actually building or installing forms or parts of the structure and to workers who were walking or climbing from one work area to another. Other impact injuries (being struck by or striking against ob-

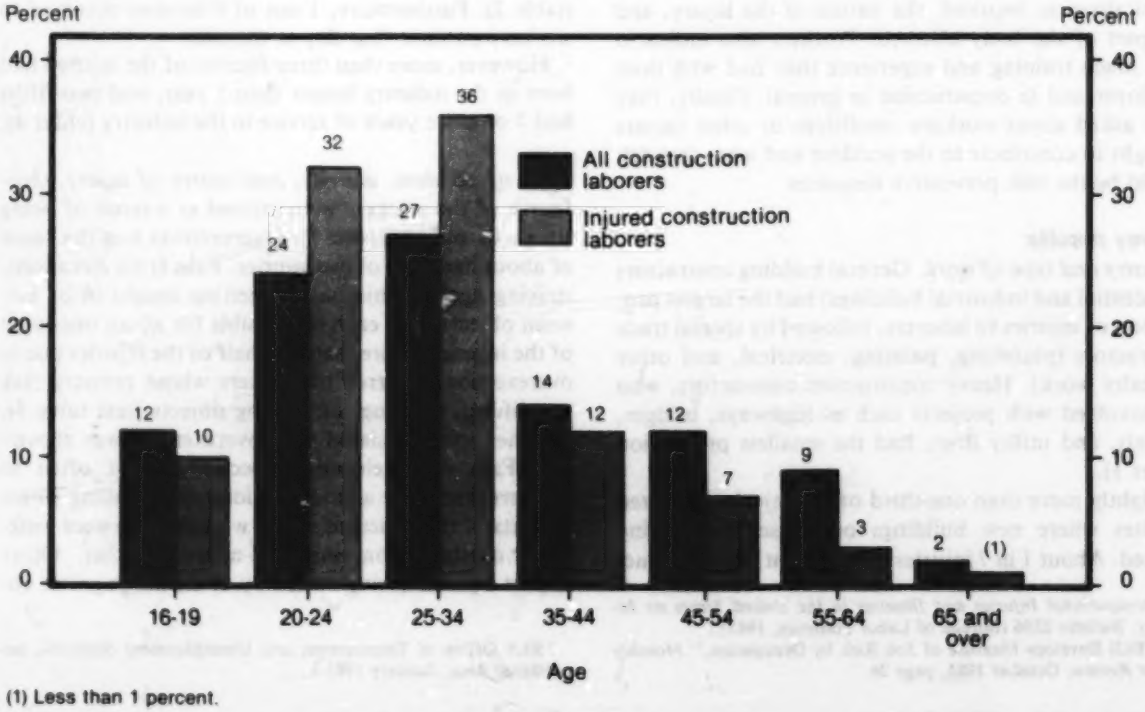
[1] *Occupational Injuries and Illnesses in the United States by Industry*, Bulletin 2236 (Bureau of Labor Statistics, 1983).

[2] "BLS Develops Measure of Job Risk by Occupation," *Monthly Labor Review*, October 1981, page 26.

[3] BLS Office of Employment and Unemployment Statistics, unpublished data, January 1983.

Chart 1. Industry distribution of injured construction laborers, 1983

Chart 2. Age comparison of injured construction laborers and all construction laborers, 1983



(1) Less than 1 percent.

Chart 3. Length of service with employer: Injured construction laborers, 1983

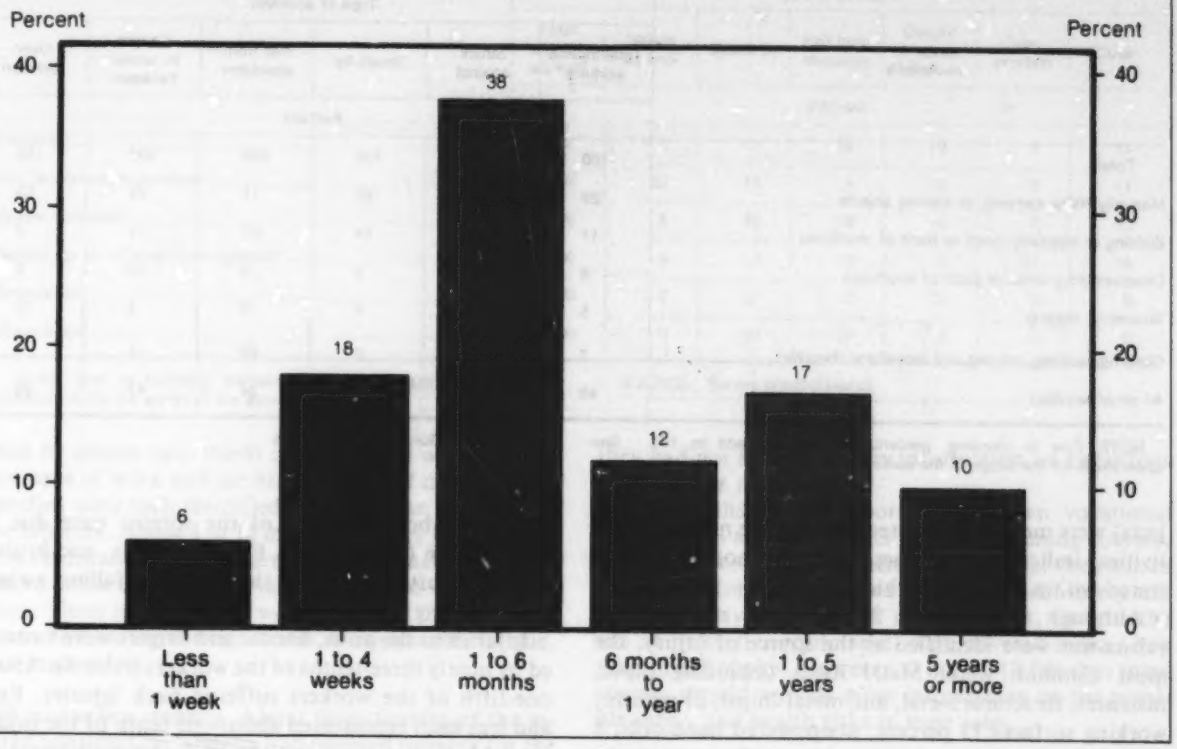
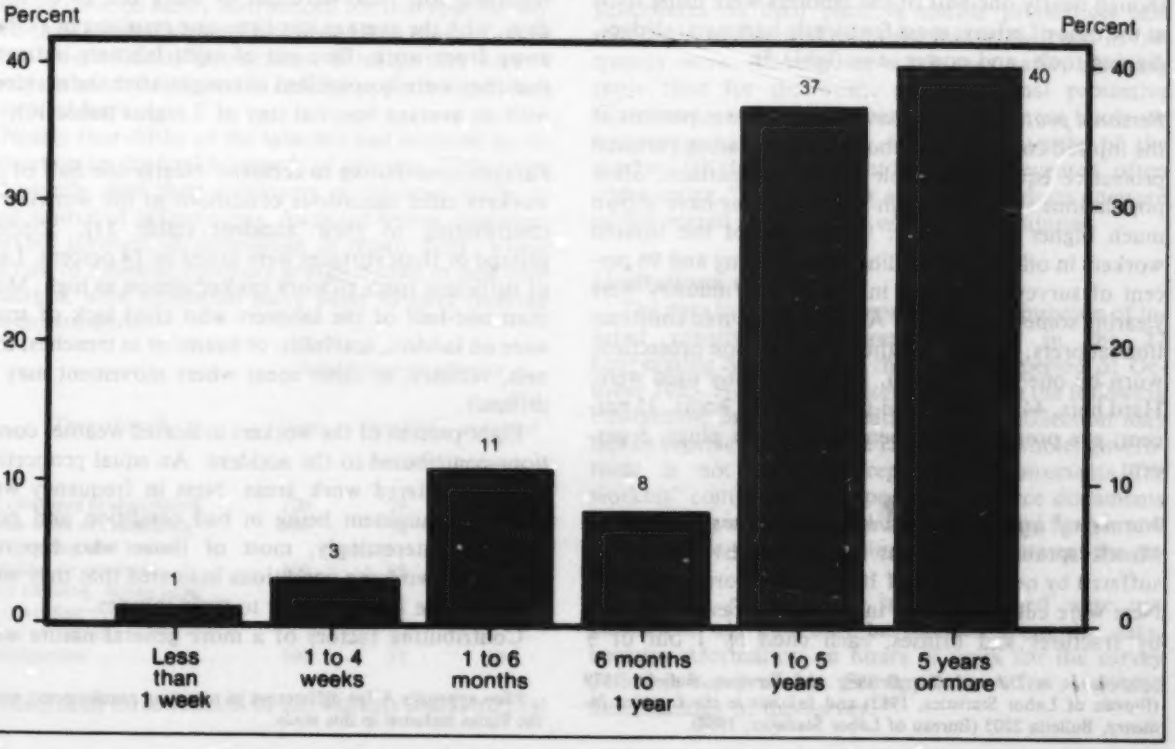


Chart 4. Length of service in construction industry: Injured construction laborers, 1983



Text table 1. Activity at time of accident: Injuries to construction laborers, selected States, October 1983

Activity	Type of accident					
	Total injured workers	Struck against	Struck by	Fall from elevation	Caught in, under, between	Over-exertion
	Percent					
Total	100	100	100	100	100	100
Manually lifting, carrying, or moving objects	29	21	25	11	24	55
Building or installing forms or parts of structures	11	11	14	27	11	3
Disassembling forms or parts of structures	8	17	9	9	10	2
Shoveling, digging	5	3	4	0	4	10
Climbing, walking, running, not elsewhere classified	7	13	2	29	4	1
All other activities	40	35	48	24	47	29

NOTE: Due to rounding, percentages may not add to 100. See appendix A for the scope of the survey.

SOURCE: Survey questionnaires.

jects) were more widely spread among the numerous activities, indicating that these risks are not as concentrated within certain activities.

Although more than 90 different objects and substances were identified as the source of injury, the most common were: Metal items (including pipes, fasteners, structural metal, and metal chips), 21 percent; working surfaces,13 percent; nonpowered handtools, 8 percent; wood items and mineral items, 7 percent each; and powered handtools, 6 percent (table 4). Overall, only 14 percent of the workers were injured by tools, even though nearly one-half of the laborers were using tools at the time of injury, most frequently hammers, sledges, digging tools, and power saws (table 5).

*Personal protective equipment.*Seventy-three percent of the injured construction laborers were wearing personal protective equipment (table 6). In comparison, other populations studied in high-risk industries have shown much higher usage rates: 98 percent of the injured workers in oil and gas drilling and servicing and 96 percent of surveyed workers in the logging industry were wearing some safety gear.[4] Among the injured construction laborers, gloves were the most common protection, worn by one-half of them. Less frequently used were: Hard hats, 44 percent; steel-toed shoes or boots, 35 percent; eye protection, 18 percent; and ear plugs, 8 percent.

Nature of injury, lost workdays, and hospitalization. Muscle sprains and strains topped the list of injuries, suffered by nearly 4 out of 10 injured laborers (table 7). Next were cuts, occurring in 1 out of 4 cases, followed by fractures and bruises, each cited by 1 out of 5 workers. About one-half of the sprains were due to overexertion (text table 2). Fractures, cuts, and bruises were most often caused by the impact of falling, swinging, or flying objects.

Injuries to the arms, hands, and fingers were sustained by nearly three-tenths of the workers (table 8). About one-fifth of the workers suffered back injuries. Eyes and legs each represented about one-tenth of the injury sites. More than three-fourths of the laborers lost days away from work as a result of their injuries (table 9).[5] Based on the median, more than one-half of those reporting lost time were out of work for 10 or more days, with the average lost-time case resulting in 17 days away from work. One out of eight laborers indicated that they were hospitalized overnight after the accident, with an average hospital stay of 5 nights (table 10).

Factors contributing to accident. Nearly one-half of the workers cited hazardous conditions at the worksite as contributing to their accident (table 11). Slippery ground or floor surfaces were noted by 14 percent. Lack of sufficient space to work ranked almost as high. More than one-half of the laborers who cited lack of space were on ladders, scaffolds, or beams or in trenches, tunnels, vehicles, or other areas where movement may be difficult.

Eight percent of the workers indicated weather conditions contributed to the accident. An equal proportion faulted cluttered work areas. Next in frequency were tools or equipment being in bad condition and poor lighting. Interestingly, most of those who reported hazardous worksite conditions indicated that they were aware of the hazards prior to their injuries.

Contributing factors of a more general nature were

[4] *Injuries in Oil and Gas Drilling and Services,* Bulletin 2179 (Bureau of Labor Statistics, 1983) and *Injuries in the Logging Industry,* Bulletin 2203 (Bureau of Labor Statistics, 1984).

[5] See appendix A for differences in reporting requirements among the States included in this study.

Text table 2. Nature of injury by type of accident: Injuries to construction laborers, selected States, October 1983

Nature of injury	Type of accident						
	Total injured workers	Struck against	Struck by	Fall from elevation	Caught in, under, between	Over-exertion	Other
	Percent						
Fracture	100	5	41	19	19	3	13
Cut, laceration, or puncture	100	23	45	8	13	0	11
Bruise, contusion	100	8	46	18	16	2	10
Muscle sprain or strain, torn ligament	100	6	8	15	5	51	14
Amputation	100	0	27	0	73	0	0
Concussion	100	0	43	57	0	0	0

NOTE: Due to rounding, percentages may not add to 100. See appendix A for the scope of the survey.

SOURCE: Survey questionnaires.

cited by almost two- thirds of the injured workers. The fast pace of work and the heavy weight of objects being handled were each identified by more than one-fifth of the laborers. About 1 in 10 indicated faulty judgment of time or distance on their part, while an equal proportion placed at least part of the blame on their co-workers' actions. Three other reasons were each cited in 1 out of 20 cases: Not having the right tools or equipment, fatigue, and inattention.

Job and safety training. About three-fourths of the injured construction laborers had received training for the type of work being done when injured, usually from their present or previous employers (table 12). However, less than one-half of the laborers indicated that their training covered safety instructions for that specific job. Two-thirds of the workers had been given on-the- job or other types of safety instructions, although they weren't always related to the specific task being performed when they were hurt.

Nearly four-fifths of the laborers had received no information on the health hazards of asbestos. Those who did usually cited their employers or the news media as their source of information. As noted below, however, workers involved in demolition or repair work, where the risk of asbestos exposure is higher than in new construction, were somewhat more likely to have received this information:

Type of work	*Information on asbestos*		
	Total	*Provided*	*Not provided*
		(Percent)	
Site clearance or demolition	100	29	71
Repair work or remodeling	100	30	70
Constructing new house, building, or structure	100	19	81
Road building, laying pipe, or sewer line	100	21	79
Bridge or tunnel construction	100	13	87

More than three-fourths of the workers indicated that they had not been given any information on hazardous chemicals or materials.

Three-fifths of the laborers had taken vocational education in school or other technical training courses, and all but one-tenth of them reported that the courses provided information related to occupational safety and health. Safety hazards and related topics, such as the use of protective equipment, were covered more often than health topics. However, 7 out of 10 felt that these courses should provide more information on the possible safety and health risks in their jobs.

Accident prevention. The injured workers were asked how they thought their accident could have been prevented (table 13). About 1 in 5 suggested safer work procedures on their part. A similar proportion said more help was needed to do the job safely. Next in frequency were: Making the work area safer, allowing more time for the work, using personal protective equipment, and having better or different tools or equipment to do the job. About three-tenths of the workers felt that it could not have been prevented, often commenting, "It was a freak accident," perhaps unaware of the overall frequency of occupational injuries.

Limitations of the data

The data in this survey represent the population of injured construction laborers reported in the 27 cooperating States during the reference period of October 1983. However, the user should note the following limitations: States participating in data collection may not be representative of the country as a whole; government is not included; reporting requirements for workers' compensation reports, the source documents for selecting injuries for study, vary among States; and the reference period is not intended to represent the entire year.

Incidence rates of the injuries studied were not generated, nor can they be inferred from the data, because information on hours of work for the survey period is not available. See appendix A for scope and methodology of the survey.

Table 1. Industry and type of work: injuries to construction laborers, selected States, October 1983

Industry and type of work	Percent
Total, 3,700 injured workers	100
Industry	
General building contractors	38
General building contractors, uns.	7
Residential building construction	15
Single-family housing construction	9
Residential construction, uns. or n.e.c.	6
Operative builders	1
Nonresidential building construction	15
Industrial buildings and warehouses	3
Nonresidential construction, uns. or n.e.c.	12
Heavy construction contractors	28
Heavy construction contractors, uns.	3
Highway and street construction	8
Heavy construction, except highway	17
Bridge, tunnel, and elevated highway	3
Water, sewer, and utility lines	9
Heavy construction, n.e.c.	6
Special trade contractors	34
Plumbing, heating, air conditioning	4
Electrical work	3
Masonry, stonework, and plastering	7
Masonry, stonework, and plastering, uns.	(1)
Masonry and other stonework	4
Plastering, drywall, and insulation	2
Terrazzo, tile, marble, mosaic work	1
Carpentering	1
Roofing and sheet metal work	3
Concrete work	6
Water well drilling	(1)
Miscellaneous special trade contractors	5
Structural steel erection	1
Glass and glazing work	(1)
Excavating and foundation work	3
Wrecking and demolition work	1
Installing building equipment, n.e.c.	(1)
Special trade contractors, uns. or n.e.c.	4
Type of work	
Site clearance or demolition	10
Construction of *new* house or building	36
Construction of structure other than house or building	13
Repair work or remodeling (including addition to house)	14
Road building or repair	8
Bridge or tunnel construction	5
Laying sewer lines or other pipelines	6
Other	8

[1] Less than 0.5 percent.

n.e.c. = not elsewhere classified.

uns. = unspecified.

NOTE: Due to rounding, percentages may not add to 100. See appendix A for the scope of the survey.

SOURCE: Industry obtained from State workers' compensation reports; type of work obtained from survey questionnaires.

Table 2. Location on job site and length of time on site at time of accident: Injuries to construction laborers, selected States, October 1983

Location and length of time	Percent
Total, 3,700 injured workers	100
Location	
Ground or floor level	62
Ladder	5
Scaffold	6
Stairs or steps	1
Tunnel	1
Roof	4
Beam, girder, or other area above ground level	6
In tank	(1)
In trench	7
In or on vehicle	4
Other	2
Not at job site	1
Length of time at job site	
First day at site	12
Less than 1 week	16
1 week to 1 month	27
1 to 3 months	21
More than 3 months	22
Not at job site	1

[1] Less than 0.5 percent.

NOTE: Due to rounding, percentages may not add to 100. See appendix A for the scope of the survey.

SOURCE: Survey questionnaires.

Table 3. Type of accident: Injuries to construction laborers, selected States, October 1983

Type of accident	Percent
Total, 3,700 injured workers	100
Struck against	10
Struck against, uns.	1
Stationary object	8
Moving object	1
Struck by	25
Struck by, uns.	1
Falling object	10
Flying object	3
Struck by, n.e.c.	11
Fall from elevation	11
Fall from elevation, uns.	(1)
From scaffolds, etc.	2
From ladders	2
From piled materials	(1)
From vehicles	1
On stairs	1
Into shafts, etc.	1
Fall to lower level, n.e.c.	3
Fall on same level	7
Fall to the walkway, etc.	4
Fall onto or against objects	3
Fall on same level, n.e.c.	(1)
Caught in, under, between	8
Caught in, under, between, uns.	2
Inrunning or meshing objects	1
Moving and stationary objects	3
Collapsing materials	1
Caught in, under, between, n.e.c.	2
Rubbed or abraded	7
Rubbed or abraded, uns.	(1)
Leaning, kneeling, etc.	(1)
Objects handled	1
Foreign matter in eyes	6
Rubbed or abraded, n.e.c.	(1)
Bodily reaction	3
Overexertion	22
Overexertion, uns.	2
Lifting objects	10
Pulling or pushing objects	3
Wielding or throwing objects	5
Overexertion, n.e.c.	2
Contact with electric current	(1)
Contact with temperature extremes	2
Hot objects or substances	2
Contact with radiations, caustics, etc.	3
Contact with radiations, caustics, etc., uns.	(1)
By inhalation	(1)
By absorption	2
Contact with radiations, caustics, etc., n.e.c.	(1)
Transportation accidents, other than motor vehicle	(1)
Highway motor vehicle accidents	(1)
Explosions	(1)
Nonclassifiable	2

[1] Less than 0.5 percent.

n.e.c. = not elsewhere classified.

uns. = unspecified.

NOTE: Due to rounding, percentages may not add to 100. See appendix A for the scope of the survey.

SOURCE: State workers' compensation reports.

Table 4. Source of injury: Injuries to construction laborers, selected States, October 1983

Source of injury	Percent
Total, 3,700 injured workers	100
Animals, insects, etc.	(1)
Bodily motion	3
Boilers, pressure vessels	1
Boxes, barrels, containers	3
Buildings and structures	4
Ceramic items	1
Chemicals, chemical compounds	2
Clothing	(1)
Coal and petroleum products	2
Conveyors	(1)
Electric apparatus	1
Flame, fire, smoke	(1)
Furniture, fixtures, etc.	1
Glass items, n.e.c.	(1)
Handtools, not powered	8
Handtools, not powered, uns.	(1)
Blow torch	(1)
Chisel	(1)
Crowbar	(1)
Hammer	3
Knife	1
Pick	(1)
Pliers	(1)
Rope, chain	(1)
Screwdriver	(1)
Shovel	1
Wrench	(1)
Handtools, not powered, n.e.c.	1
Handtools, powered	6
Handtools, powered, uns.	(1)
Grinder	1
Drill	(1)
Hammer, tamper	3
Knife	(1)
Saw	1
Handtools, powered, n.e.c.	1
Heat, atmospheric	(1)
Heating equipment (nonelectric), n.e.c.	(1)
Hoisting apparatus	1
Ladders	1
Liquids, n.e.c.	(1)
Machines	3
Agitators, mixers	(1)
Buffers, polishers, etc.	(1)
Casting, forging, welding	(1)
Drilling, boring	(1)
Highway construction, n.e.c.	1
Planers, shapers, molders	(1)
Saws	(1)
Shears, slitters, slicers	(1)
Machines, n.e.c.	(1)
Mechanical power transmission apparatus	1
Metal items	21
Metal items, uns.	1
Automobile parts	(1)
Structural metal	5
Molten metal	(1)
Pipe and fittings	4
Metal parts (except automobile)	(1)
Metal fasteners	4
Metal binders	1
Metal chips, splinters, particles	2
Metal items, n.e.c.	3
Mineral items, metallic, n.e.c.	(1)
Mineral items, nonmetallic, n.e.c.	7
Paper and pulp	(1)

See footnotes at end of table.

Table 4. Source of injury: Injuries to construction laborers, selected States, October 1983—Continued

Source of injury	Percent
Particles (unidentified)	1
Plants, trees, vegetation	(1)
Plastic items, n.e.c.	(1)
Pumps and prime movers	1
Radiating substances and equipment	1
Soaps, detergents, etc., n.e.c.	(1)
Silica	(1)
Scrap, debris, waste materials, n.e.c.	1
Textile items, n.e.c.	(1)
Vehicles	4
Highway vehicles, powered	2
Plant or industrial vehicles	2
Rail vehicles	(1)
Vehicles, n.e.c.	(1)
Wood items	7
Wood items, uns.	(1)
Logs	(1)
Lumber	4
Skids, pallets	(1)
Wood items, n.e.c.	3
Working surfaces	13
Working surfaces, uns.	2
Floor	2
Ground	7
Ramps	(1)
Roofs	(1)
Runways, platforms	(1)
Sidewalks, paths, etc.	(1)
Stairs, steps	1
Street, road	(1)
Working surfaces, n.e.c.	1
Person	(1)
Rubber products	(1)
Miscellaneous, n.e.c.	2
Nonclassifiable	3

[1] Less than 0.5 percent.

n.e.c. = not elsewhere classified.

uns. = unspecified.

NOTE: Due to rounding, percentages may not add to 100. See appendix A for the scope of the survey.

SOURCE: State workers' compensation reports.

Table 5. Tools and heavy equipment used when injured: injuries to construction laborers, selected States, October 1983

Tools and heavy equipment	Percent
Tool worker was using	
Total, 3,700 injured workers	100
Powered tool	15
Drill	2
Grinder	1
Jackhammer	3
Nail gun	1
Saw	4
Tamper	1
Stapler	(1)
Welding tools, torch	1
Other powered tool	3
Nonpowered tool	32
Cart, dolly	(1)
Crowbar, pry bar	2
Float	(1)
Hammer, sledge, mallet	10
Knife	1
Pliers, tongs	1
Rope, chain	1
Scissors, shears, cutters	1
Shovel, spade, pick, or other digging tool	7
Trowel, putty knife	1
Wheelbarrow	2
Wrench	2
Other nonpowered tool	4
Nonpowered tool, uns.	1
No tools	53
Heavy equipment or vehicle worker was operating	
Total, 3,700 injured workers	100
Pickup truck, van, car, or jeep	-
Concrete mixer (mobile)	(1)
Cement mixer (stationary)	1
Dump truck	(1)
Road paving equipment	(1)
Tractor (wheel)	(1)
Tractor (track)	-
Bulldozer	-
Other earth moving equipment	(1)
Crane, hoist, or conveyor	(1)
Pump, blower, or compressor	(1)
Other heavy equipment	(1)
Not operating heavy equipment or vehicle	97

See footnotes at end of table.

Table 5. Tools and heavy equipment used when injured: injuries to construction laborers, selected States, October 1983—Continued

Tools and heavy equipment	Percent
To worker's knowledge, safety features of heavy equipment or vehicle	
Total, 130 injured workers	[1]
Backup alarms	17
Cage or cover to protect against falling objects	18
Rollover protection	–
Seat belt	18
Emergency stop or deadman switch	–
Machine guards or belt guards in use	15
Other safety features	17
Not aware of any safety features	39

[1] Less than 0.5 percent.
[2] Because more than one response is possible, the sum of the percentages may not equal 100. Percentages are based on the total number of persons who answered the question.
uns. = unspecified.
NOTE: Dashes indicate no data were reported. Due to rounding, percentages may not add to 100. See appendix A for the scope of the survey.
SOURCE: Survey questionnaires.

Table 6. Personal protective equipment worn: injuries to construction laborers, selected States, October 1983

Protective equipment	Percent
Total, 3,700 injured workers	[1]
Hard hat	44
Gloves	50
Steel-toed safety shoes or steel-toed boots	35
Steel plate in sole of shoes	5
Safety glasses, goggles, or other eye protection	18
Ear plugs or other hearing protection	8
Welder's hood or welder's shield	1
Respirator or protective mask	4
Safety belt tied off to lanyard and/or lifeline	1
Safety belt not tied off to lanyard and lifeline	[2]
Guardrails or safety railings at heights or around openings	1
Seat belt	[2]
Other	3
Not wearing or using protective equipment	27

[1] Because more than one response is possible, the sum of the percentages may not equal 100. Percentages are based on the total number of persons who answered the question.
[2] Less than 0.5 percent.
NOTE: See appendix A for the scope of the survey.
SOURCE: Survey questionnaires.

Table 7. Nature of injury: Injuries to construction laborers, selected States, October 1983

Nature of injury	Percent
Total, 3,700 injured workers	(1)
Fracture	19
Cut, laceration, or puncture	25
Bruise, contusion	20
Muscle sprain or strain, torn ligament	38
Heat burn	2
Chemical burn	1
Amputation	1
Object in eye(s)	9
Concussion	1
Other	7

[1] Because more than one response is possible, the sum of the percentages may not equal 100. Percentages are based on the total number of persons who answered the question.

NOTE: See appendix A for the scope of the survey.

SOURCE: Survey questionnaires.

Table 8. Part of body affected: injuries to construction laborers, selected States, October 1983

Part of body	Percent
Total, 3,700 injured workers	100
Head	15
Head, uns.	1
Brain	1
Ear(s)	(1)
Eye(s)	9
Face	2
Scalp	(1)
Head, multiple	(1)
Head, n.e.c.	1
Neck	1
Upper extremities	28
Upper extremities, uns.	(1)
Arm(s)	4
Arm(s), uns.	2
Upper arm(s)	(1)
Elbow(s)	1
Forearm(s)	1
Arm(s), n.e.c.	(1)
Wrist(s)	3
Hand(s)	7
Finger(s)	12
Upper extremities, multiple	1
Trunk	26
Trunk, uns.	(1)
Abdomen	1
Back	19
Chest	2
Hip(s)	1
Shoulder(s)	2
Trunk, multiple	1
Lower extremities	24
Lower extremities, uns.	(1)
Leg(s)	10
Leg(s), uns.	2
Thigh(s)	1
Knee(s)	6
Lower leg(s)	1
Leg(s), multiple	(1)
Leg(s), n.e.c.	(1)
Ankle(s)	4
Foot or feet	6
Toe(s)	3
Lower extremities, multiple	1
Multiple parts	5
Body system	1
Nonclassifiable	1

[1] Less than 0.5 percent.
n.e.c. = not elsewhere classified.
uns. = unspecified.
NOTE: Due to rounding, percentages may not add to 100. See appendix A for the scope of the survey.
SOURCE: State workers' compensation reports.

Table 9. Estimated days away from work: Injuries to construction laborers, selected States, October 1983

Days away from work	Percent
Total, 3,700 injured workers	100
No days away from work	23
1 to 5 days	25
6 to 10 days	11
11 to 15 days	7
16 to 20 days	4
21 to 25 days	3
26 to 30 days	4
31 to 40 days	3
41 to 60 days	6
More than 60 days	2
Lost-time cases for which days away from work were not estimated	12
Mean days away from work per lost-workday case	17

NOTE: Due to rounding, percentages may not add to 100. See appendix A for the scope of the survey.
SOURCE: Survey questionnaires.

Table 10. Length of hospitalization required: Injuries to construction laborers, selected States, October 1983

Length of hospitalization	Percent
Total, 3,700 injured workers	100
No hospitalization required	88
1 night	1
2 nights	2
3 nights	1
4 nights	1
5 nights	1
6 nights	1
7 nights	1
8 nights	1
9 nights	(1)
10 nights	(1)
11 nights or more	1
Hospitalized cases for which length of hospitalization was not estimated	1
Mean length (nights) of hospitalization per hospitalized case	5

[1] Less than 0.5 percent.
NOTE: Due to rounding, percentages may not add to 100. See appendix A for the scope of the survey.
SOURCE: Survey questionnaires.

Table 11. Conditions or factors contributing to the accident: injuries to construction laborers, selected States, October 1983

Conditions or factors workers felt contributed to accident	Percent
Worksite conditions	
Total, 3,700 injured workers	(1)
Weather at time of accident	8
Slippery ground or floor surface	14
No guardrails or safety railings	3
Working in a limited area or space	13
Poor lighting	4
Cluttered work area	8
Tools or equipment in bad condition or not working properly	6
Structure was broken or in bad condition	3
Not enough ventilation	1
Other	6
No conditions at worksite led to accident	54
Worker awareness of conditions prior to accident	
Total, 3,700 injured workers	100
Not aware of these conditions	9
Aware of *all* of the conditions indicated	30
Aware of *some* of the conditions indicated	5
No conditions at worksite led to accident	55
Other contributing factors	
Total, 3,700 injured workers	(1)
Co-worker's activity	10
Working too fast	21
Tool or equipment not right for job	8
Working when tired or fatigued	5
Working when under stress	3
Lifting, pushing, or moving an object that was too heavy or bulky	22
Misjudged time or distance needed to avoid injury	11
Not paying full attention to work or distracted	5
Not given proper training or instructions for job	3
Too noisy	1
Other	6
No other factors contributed to accident	36

[1] Because more than one response is possible, the sum of the percentages may not equal 100. Percentages are based on the total number of persons who answered the question.

NOTE: Due to rounding, percentages may not add to 100. See appendix A for the scope of the survey.

SOURCE: Survey questionnaires.

Table 12. Training information: Injuries to construction laborers, selected States, October 1983

Training information	Percent
Source of training for work being done when injured	
Total, 3,700 injured workers	(1)
Present supervisor or employer	34
Previous supervisor or employer	28
Co-worker (other than supervisor)	21
School teacher or military instructor	6
Other	3
Never received any training for this type of work	26
Whether training included safety instructions for work being done when injured	
Total, 3,700 injured workers	100
No	23
Yes	44
Don't remember	6
Never received any training for this type of work	26
How safety instructions were given	
Total, 3,700 injured workers	(1)
Never received safety instructions	33
Printed materials (safety manual, textbook, etc.)	10
In school or other type of classroom instruction	6
On the job	51
Safety meetings	23
Other	2
Information on the health hazards of asbestos	
Total, 3,700 injured workers	100
Provided information on asbestos	22
No information provided	78
Information on hazardous chemicals	
Total, 3,700 injured workers	100
Provided information on hazardous chemicals	23
No information provided	77
Vocational education or other technical training courses received	
Total, 3,700 injured workers	(1)
None	40
In school	49
Through union	7
In military	10
In apprentice program	6
In other program	6

See footnotes at end of table.

Table 12. Training information: Injuries to construction laborers, selected States, October 1983—Continued

Training information	Percent
Safety or health information provided in these courses	
Total, 2,230 injured workers	(1)
Safety hazards worker might find on the job	69
Health hazards worker might find on the job such as fumes, asbestos, etc.	36
How to recognize, avoid, or prevent unsafe or unhealthy conditions on the job	52
When and how to use personal protective equipment such as gloves, hard hat, etc.	62
When and how to use a respirator	25
Other safety or health information	12
None	11
Workers' opinions on whether courses should provide more information on safety and health risks found on the job	
Total, 2,230 injured workers	100
Should provide more information	70
Should not provide more information	30

[1] Because more than one response is possible, the sum of the percentages may not equal 100. Percentages are based on the total number of persons who answered the question.

NOTE: Due to rounding, percentages may not add to 100. See appendix A for the scope of the survey.

SOURCE: Survey questionnaires.

Table 13. Accident prevention: Injuries to construction laborers, selected States, October 1983

Accident prevention	Percent
Actions, methods, or procedures that worker feels would have prevented accident	
Total, 3,700 injured workers	(1)
Making area safer before working	15
More or better safety training	8
Using personal protective equipment	14
Using safer work procedures on worker's part	21
Having company enforce safe work procedures	11
Using guardrails or other types of fall protection	5
Better or different tools or equipment	13
More time to do job	15
Better supervision	7
More help to do job	19
Other	7
Do not think it could have been prevented	29

[1] Because more than one response is possible, the sum of the percentages may not equal 100. Percentages are based on the total number of persons who answered the question.

NOTE: See appendix A for the scope of the survey.

SOURCE: Survey questionnaires.

Table 14. Activity at time of accident: Injuries to construction laborers, selected States, October 1983

Activity	Percent
Total, 3,700 injured workers	100
Manually lifting, carrying, moving	29
Decking	1
Brick, block, flagstone	2
Concrete, mortar	2
Doors, cabinets, windows	(1)
Lumber, plywood, wood trusses, or forms	6
Pipe	2
Steel beams	1
Tar, asphalt	1
Wallboard, dry-wall, sheetrock	1
Rebars	1
Structural items or building supplies, n.e.c.	5
Rocks, gravel, shrubs, plants	(1)
Trash, rubble, scrap	1
Tools, equipment	4
Other	2
Unknown	(1)
Mechanically lifting, carrying, moving items	4
Mixing, pouring, spreading, or applying	5
Concrete, cement	4
Asphalt, tar	1
Caulking, putty, grout, plaster, joint compound	(1)
Other	(1)
Assembling, disassembling, or moving scaffold	2
Chipping, grinding	1
Shoveling, digging	5
Painting, sanding	(1)
Breaking up or cutting concrete, asphalt, brick, rocks, etc.	3
Building or installing forms or parts of the structure (walls, roof, floor, siding)	11
Disassembling or tearing down forms or parts of structure (walls, roof, floor, siding)	8
Cleaning or repairing tools, equipment, or vehicles	3
Assembling or setting up tools or equipment	3
General maintenance or cleanup	3
Electrical work or assisting electrician	1
Operating mobile equipment	1
Laying pipe	3
Road paving work, n.e.c.	(1)
Repointing mortar, cleaning mortar from bricks	(1)
Welding	1
Cutting	3
Climbing, walking, running, n.e.c.	7
Other	5
Unknown	(1)

[1] Less than 0.5 percent.

n.e.c. = not elsewhere classified.

NOTE: Due to rounding, percentages may not add to 100. See appendix A for the scope of the survey.

SOURCE: Survey questionnaires.

Table 15. Length of service: Injuries to construction laborers, selected States, October 1983

Length of service	Percent
Total, 3,700 injured workers	100
Length of service with employer	
Less than 1 week	6
1 to 4 weeks	18
1 to 6 months	38
6 months to 1 year	12
1 to 5 years	17
5 years or more	10
Length of service in construction	
Less than 1 week	1
1 to 4 weeks	3
1 to 6 months	11
6 months to 1 year	8
1 to 5 years	37
5 years or more	40

NOTE: Due to rounding, percentages may not add to 100. See appendix A for the scope of the survey.
SOURCE: Survey questionnaires.

Table 16. Sex of worker: Injuries to construction laborers, selected States, October 1983

Sex	Percent
Total, 3,700 injured workers	100
Men	98
Women	2

NOTE: See appendix A for the scope of the survey.
SOURCE: State workers' compensation reports.

Table 17. Age of worker: Injuries to construction laborers, selected States, October 1983

Age	Percent
Total, 3,700 injured workers	100
16-19 years	10
20-24 years	32
25-34 years	36
35-44 years	12
45-54 years	7
55-64 years	3
65 years or more	(1)

[1] Less than 0.5 percent.
NOTE: Due to rounding, percentages may not add to 100. See appendix A for the scope of the survey.
SOURCE: State workers' compensation reports.

Appendix A. Survey Explanatory Note

Scope of survey

The survey was designed to develop information on injuries to laborers employed in the construction industry in the private sector. The injuries studied occurred during the month of October 1983. Workers were classified as construction laborers according to the 1970 Bureau of the Census classification of occupations. Cases excluded from the scope of the survey were on-the-road vehicle accidents other than at a roadside construction site; assaults; and fatalities.

The survey covered the 27 States shown in appendix B. To identify cases within the scope of the survey, staff of the participating State agencies reviewed Employer's Reports of Injuries required by State workers' compensation laws. A systematic random sample of 1 out of every 3 in-scope reports was selected, and a questionnaire was mailed to each injured worker in the sample. Cooperation was voluntary. During the survey period, 658 survey questionnaires were returned and found to be within the scope of the survey, resulting in a response rate of 53 percent.

Although the data were aggregated for all participating States, it should be noted that the workers' compensation cases selected for study reflect differences in reporting requirements. Workers' compensation cases involving medical treatment regardless of lost time are reported in the following States: Hawaii, Maine, Montana, Nebraska, North Carolina, Texas, Utah, Vermont, Washington, and Wyoming. The remaining participating States require reports for cases involving the following number of days away from work: 1 day—Alaska, California, Ohio; 2 days—Kentucky; 3 days—Missouri; 4 days—Colorado, Delaware, Iowa, Maryland, Oregon, Wisconsin; 7 days—Michigan; 8 days—Arizona, Arkansas, New Mexico, Tennessee, and Virginia. Although participating States provided a broad geographic and industrial mix, they were not selected statistically to represent the country as a whole.

Information on the employer's industry classification, the worker's age, sex, and part of body injured, and the source of injury were classified based on information furnished by the employer in the workers' compensation report. The worker's activity at the time of the accident was classified according to the overall task being performed. For example, carrying bricks to a bricklayer was coded as materials handling, while lifting bricks in the process of building a wall would be considered as building a structure.

Weighting and estimating procedures

A weighting procedure was used to make the sample of injured workers account for all in-scope injured workers in the 27 participating States. For this survey, an original weight of 3, which is the inverse of the probability of selection, was applied to each sample member's response.

Forty-seven percent of the workers selected to participate in the survey did not return the questionnaire. These are referred to as unit nonrespondents. A weight-class nonresponse adjustment procedure was used to reduce the bias due to nonresponse in the estimates. In this procedure, the sample is partitioned into cells, and a unit nonresponse adjustment factor is calculated within each cell. This procedure is based on the assumption that, within each cell, the response distribution of the unit nonrespondents would be the same as the response distribution of the respondents.

To determine the set of cells for unit nonresponse adjustment, a comparison of the following characteristics was made between respondents and nonrespondents: Age, sex, nature of injury, part of body affected, source, type of accident, and industry. The greatest difference between respondents and nonrespondents was in the age distribution. Further, it was determined that the survey responses varied by age. Therefore, an age partition (0-34 years, 35 or more years, and age unknown) was used to adjust for unit nonresponse.

In addition to workers not returning the questionnaire, there were a small number that responded to the survey but did not answer all of the questions. These are referred to as item nonrespondents. To account for this type of nonresponse, it was assumed that the response distribution of the item nonrespondents would be the same as the response distribution of the item respondents.

For each question, a final weight for each respondent was calculated as the original weight times an adjustment factor for unit and item nonresponse.

The estimate of the total number of in-scope injured workers for each question is equal to the sum of the final weights of the respondents.

The estimate of the percent of workers giving a particular answer to a question is the sum of the final weights of the respondents giving a particular answer divided by the estimate of the total number of in-scope injured workers.

Estimates of mean and median lost workdays and

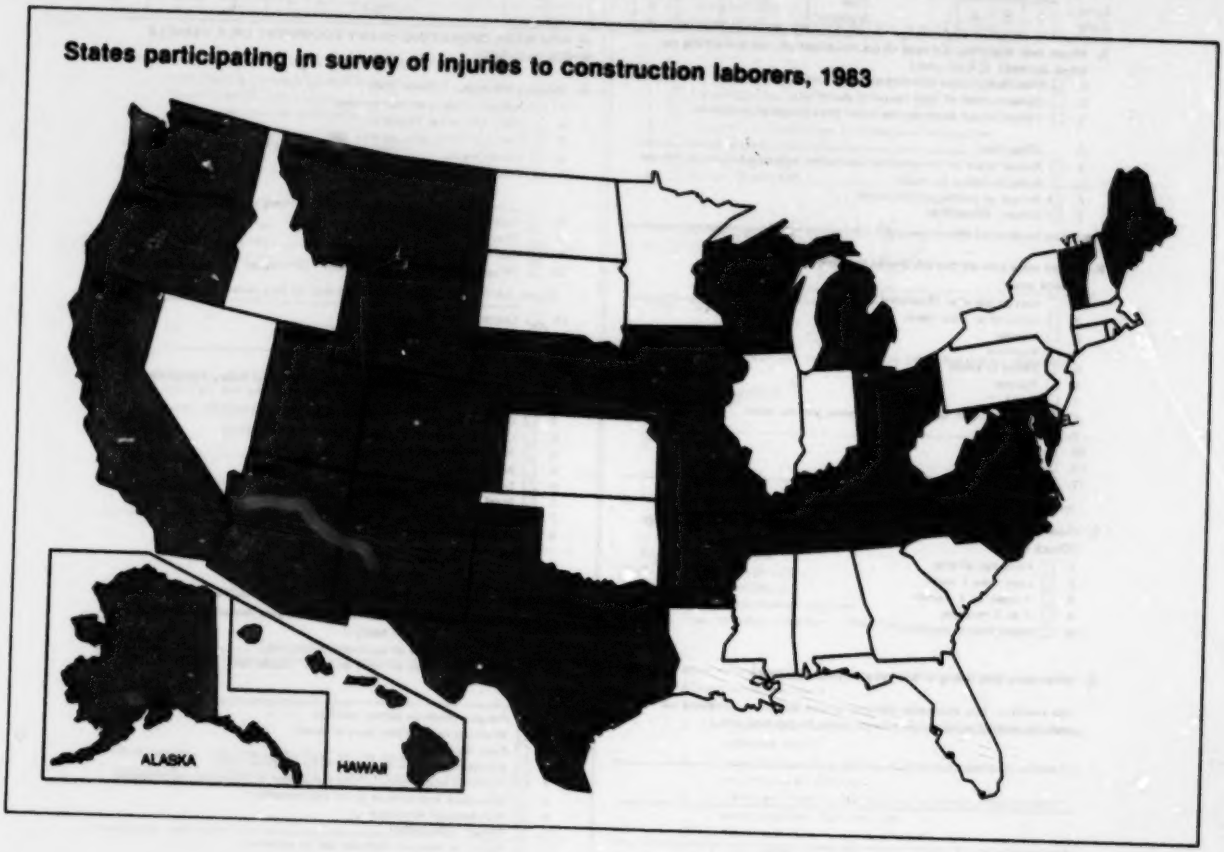
nights of hospitalization do not include cases in which workers indicated lost time or hospitalization but failed to provide numerical estimates of the amount of time.

Reliability

All estimates derived from a sample survey are subject to sampling and nonsampling errors. Sampling errors occur because observations are made on a sample, not on the entire population. Estimates based on the different possible samples of the same size and sample design could differ. The standard errors, which are a measure of the sampling error in the estimates, are calculated as part of the survey's estimation process and are available upon request.

Nonsampling errors in the estimates can be attributed to many sources, e.g., inability to obtain information about all cases in the sample, mistakes in recording or coding the data, definitional difficulties, etc. To minimize the nonsampling errors in the estimates, the completed questionnaires are edited and apparent inconsistencies are checked.

Appendix B. Participating State Agencies



Appendix C. Survey Questionnaire

Bureau of Labor Statistics
Work Injury Report—Construction Workers

U.S. Department of Labor

The information collected on this form by the Bureau of Labor Statistics and the State Agencies cooperating in its statistical program will be held in confidence and will be used for statistical purposes only.

This report is authorized by law 29 U.S.C. 2. Your voluntary cooperation is needed to make the results of this survey comprehensive, accurate, and timely.

Form Approved
O.M.B. No. 1220-0047
Approval Expires 9/30/86

Survey Code: 1 8 4

Case Number: _____

Date of Accident: ___ – ___ – ___

A. Which best describes the type of construction you were working on when injured? *(Check one.)*

1. ☐ Site clearance or demolition
2. ☐ Construction of new house or building
3. ☐ Construction of structure other than house or building:

   (Describe) _____
4. ☐ Repair work or remodeling (including adding addition to house)
5. ☐ Road building or repair
6. ☐ Bridge or tunnel construction
7. ☐ Other: *(Describe)* _____

B. Where were you on the job site at the time of your accident? *(Check one.)*

1. ☐ Not at job site *(Explain)* _____
2. ☐ Ground or floor level
3. ☐ Ladder
4. ☐ Scaffold
5. ☐ Stairs or steps
6. ☐ Tunnel
7. ☐ Roof
8. ☐ Beam, girder, or other area above ground level
9. ☐ In tank
10. ☐ In trench
11. ☐ In vehicle
12. ☐ Other: *(Describe)* _____

C. How long had you been working at that job site before the accident? *(Check one.)*

1. ☐ First day at site
2. ☐ Less than 1 week
3. ☐ 1 week to 1 month
4. ☐ 1 to 3 months
5. ☐ More than 3 months

D. What were you doing at the time of your accident?

(Be specific. For example: Shoveling dirt in trench, breaking up asphalt, applying joint compound, going to get tool, etc.)

_____

_____

_____

_____

_____

_____

E. What tool(s), if any, were you using when injured?

Tool(s): _____

F. Was the tool powered or nonpowered? *(Check one.)*

1. ☐ Not using any tools
2. ☐ Powered
3. ☐ Nonpowered

IF YOU WERE OPERATING A VEHICLE OR HEAVY EQUIPMENT, COMPLETE G and H;

IF NOT, GO TO I.

IF YOU WERE OPERATING HEAVY EQUIPMENT OR A VEHICLE WHEN INJURED:

G. Indicate the type. *(Check one.)*

1. ☐ Pickup truck, van, car, or jeep
2. ☐ Concrete mixer (mobile)
3. ☐ Cement mixer (stationary)
4. ☐ Dump truck
5. ☐ Road paving equipment: *(Describe)* _____
6. ☐ Tractor (wheel)
7. ☐ Tractor (track)
8. ☐ Bulldozer
9. ☐ Other earth moving equipment: *(Describe)* _____
10. ☐ Crane, hoist, or conveyor
11. ☐ Pump, blower, or compressor
12. ☐ Other heavy equipment: *(Describe)* _____

H. To your knowledge, what safety features did the heavy equipment or vehicle have? *(Check all that apply.)*

1. ☐ Backup alarms
2. ☐ Cage or cover to protect against falling objects
3. ☐ Rollover protection
4. ☐ Seat belt
5. ☐ Emergency stop or deadman switch
6. ☐ Machine guards or belt guards in use
7. ☐ Other safety feature: *(Describe)* _____
8. ☐ Not aware of any safety features

CONTINUE WITH I, BELOW.

I. Were there any worksite conditions which you feel contributed to your accident? *(Check all that apply.)*

1. ☐ Weather at time of accident: *(Describe)* _____
2. ☐ Slippery ground or floor surface: *(Describe)*

   _____
3. ☐ No guardrails or safety railings
4. ☐ Working in a limited area or space
5. ☐ Poor lighting
6. ☐ Cluttered work area (trash lying on floor, etc.)
7. ☐ Tools or equipment in bad condition or not working properly
8. ☐ Structure was broken or in bad condition
9. ☐ Not enough ventilation
10. ☐ Other: *(Describe)* _____
11. ☐ No conditions at worksite led to accident

J. Were you aware of these conditions before your accident? *(Check one.)*

1. ☐ No conditions at worksite led to accident
2. ☐ No—not aware of these conditions
3. ☐ Yes—aware of all of the conditions checked above
4. ☐ Yes—aware of some of the conditions checked above

K. Were there any other factors which you feel contributed to your accident? *(Check all that apply.)*

1. ☐ Co-worker's activity: *(Explain)* _____
2. ☐ Working too fast
3. ☐ Tool or equipment not right for job
4. ☐ Working when tired or fatigued
5. ☐ Working when under stress
6. ☐ Lifting, pushing, or moving an object that was too heavy or bulky
7. ☐ Misjudged time or distance needed to avoid injury
8. ☐ Not paying full attention to work or distracted
9. ☐ Not given proper training or instructions for job
10. ☐ Too noisy
11. ☐ Other: *(Describe)* _____
12. ☐ No other factors contributed to accident

Describe how your accident happened.

_____

_____

_____

BLS WIH (October 1983)

CONTINUE ON REVERSE SIDE

L. What type of protective equipment were you wearing or using at the time of your accident? *(Check all that apply.)*

1. ☐ Hard hat
2. ☐ Gloves
3. ☐ Steel-toed safety shoes or steel-toed boots
4. ☐ Steel plate in sole of shoes
5. ☐ Safety glasses, goggles, or other eye protection
6. ☐ Ear plugs or other hearing protection
7. ☐ Welder's hood or welder's shield
8. ☐ Respirator
9. ☐ Safety belt tied off to lanyard and/or lifeline
10. ☐ Safety belt not tied off to lanyard and lifeline
11. ☐ Guardrails or safety railings at heights or around openings
12. ☐ Seat belt
13. ☐ Other *(Describe)* _____
14. ☐ Not wearing or using protective equipment

M. What were your injuries? *(Check all that apply.)*

1. ☐ Fracture(s)—Indicate bone(s) broken (leg, rib, ankle, etc.) _____
2. ☐ Cuts, lacerations, or punctures
3. ☐ Bruises, contusions
4. ☐ Muscle sprain or strain, torn ligaments
5. ☐ Heat burn
6. ☐ Chemical burn
7. ☐ Amputation
8. ☐ Object in eye(s)
9. ☐ Brain concussion
10. ☐ Other: *(Describe)* _____

N. Did your injury cause you to lose time from work beyond the day of injury?

1. ☐ No 2. ☐ Yes

If yes:

a. How long were you (or do you expect to be) out of work?
(NOTE: Do not count the day of injury, days on light duty work, normal days off, or holidays.)

_____ Workdays

b. Have you returned to work? *(Check one.)*
1. ☐ No—still off because of injury
2. ☐ Yes
3. ☐ Other: *(Explain)* _____

O. Did your injury require you to be hospitalized overnight?

1. ☐ No 2. ☐ Yes

If yes:

a. How long were you (or do you expect to be) in the hospital?

_____ Nights

P. What was your job title at the time of the accident?
(Be specific: Electrician's helper, plumber's helper, general laborer, etc.)

_____

Q. How long had you worked for your employer when you were injured? *(Check one.)*

1. ☐ Less than 1 week
2. ☐ 1 to 4 weeks
3. ☐ 1 to 6 months
4. ☐ 6 months to 1 year
5. ☐ 1 to 5 years
6. ☐ 5 years or more

R. How long had you done construction work? (NOTE: Do not count time you worked in jobs other than construction.)

1. ☐ Less than 1 week
2. ☐ 1 to 4 weeks
3. ☐ 1 to 6 months
4. ☐ 6 months to 1 year
5. ☐ 1 to 5 years
6. ☐ 5 years or more

S. Who trained you for this type of work? *(Check all that apply.)*

1. ☐ Never received any training for this type of work
2. ☐ Present supervisor or employer
3. ☐ Previous supervisor or employer
4. ☐ Co-worker (other than supervisor)
5. ☐ School teacher or military instructor
6. ☐ Other: *(Describe)* _____

T. Did your training cover safety instructions for the job you were doing when injured?

1. ☐ No
2. ☐ Yes
3. ☐ Don't remember
4. ☐ Never received any training for this type of work

U. How were your safety instructions given? (Check all that apply.)

1. ☐ Never received safety instructions
2. ☐ Printed materials (safety manual, textbook, etc.)
3. ☐ In school or other type of classroom instruction
4. ☐ On the job
5. ☐ Safety meetings
6. ☐ Other: *(Describe)* _____

V. Have you been given any information on the health hazards of asbestos?

1. ☐ Yes: *(Explain)*

_____

2. ☐ No

W. Have you been given any information on other hazardous chemicals or materials?

1. ☐ Yes: *(Explain)*

_____

2. ☐ No

X. Have you had vocational education (such as "shop" or "vo-tech") or other technical training courses? *(Check all that apply.)*

1. ☐ No
2. ☐ Yes—in school
3. ☐ Yes—through union
4. ☐ Yes—in military
5. ☐ Yes—in apprentice program
6. ☐ Yes—in other program: *(Describe)* _____

If yes:

a. What safety or health information did the course(s) include? *(Check all that apply.)*
1. ☐ Safety hazards you might find on the job
2. ☐ Health hazards you might find on the job *(such as fumes, asbestos, etc.)*
3. ☐ How to recognize, avoid, or prevent unsafe or unhealthy conditions on the job
4. ☐ When and how to use personal protective equipment such as gloves, hard hat, etc.
5. ☐ When and how to use respirator
6. ☐ Other safety or health information: *(Describe)*

_____

7. ☐ None

b. Do you think these courses should provide more information on safety and health risks found on the job?
1. ☐ No 2. ☐ Yes

Y. How do you think your type of accident could have been prevented? *(Check all that apply.)*

1. ☐ Making area safer before working
2. ☐ More or better safety training
3. ☐ Using personal protective equipment
4. ☐ Using safer work procedures on your part
5. ☐ Having company enforce safe work procedures
6. ☐ Using guardrails or other types of fall protection
7. ☐ Better or different tools or equipment
8. ☐ More time to do job
9. ☐ Better supervision
10. ☐ More help to do job
11. ☐ Other: *(Describe)* _____
12. ☐ Do not think it could have been prevented

best copy available

Work Injury Reports

Reports which may be purchased from the U.S. Department of Commerce, National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, Virginia 22161:

- Survey of Ladder Accidents Resulting in Injuries
  NTIS Accession No. PB83 207985 (1978)
- Survey of Welding and Cutting Accidents Resulting in Injuries
  NTIS Accession No. PB83 208017 (1978)
- Survey of Scaffold Accidents Resulting in Injuries
  NTIS Accession No. PB83 208009 (1978)
- Survey of Power Saw Accidents Resulting in Injuries
  NTIS Accession No. PB83 207993 (1978)
- Accidents Involving Eye Injuries
  NTIS Accession No. PH83 182535 (1980)
- Accidents Involving Face Injuries
  NTIS Accession No. PH83 183335 (1980)
- Accidents Involving Head Injuries
  NTIS Accession No. PH83 183343 (1980)
- Accidents Involving Foot Injuries
  NTIS Accession No. PH83 182527 (1981)
- Injuries Related to Servicing Equipment
  NTIS Accession No. PH83 182543 (1981)
- Back Injuries Associated with Lifting
  NTIS Accession No. PH83 183285 (1982)
- Work-Related Hand Injuries and Upper Extremity Amputations
  NTIS Accession No. PH83 183319 (1982)

The following report is available from the Office of Occupational Safety and Health Statistics, U.S. Department of Labor, Room 4014, 601 D Street, N.W., Washington, D.C. 20212.

- Injuries in Oil and Gas Drilling and Services
  Bulletin 2179 (1983)

Reports which may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402:

- Injuries Resulting From Falls From Elevations
  Bulletin 2195 (1984)
- Injuries in the Logging Industry
  Bulletin 2203 (1984)
- Injuries Resulting From Falls on Stairs
  Bulletin 2214 (1984)
- Injuries to Construction Laborers
  Bulletin 2252 (1986)

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